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QUALCOMM INCORPORATED			ELALLAM, AHMED	
5775 MOREHOUSE DR.				
SAN DIEGO, CA 92121			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 09/900,559	Applicant(s) DALEY ET AL.
	Examiner AHMED ELALLAM	Art Unit 2416

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(o).

Status

1) Responsive to communication(s) filed on 10/20/2008.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-11,14-25,27,69-74,76-85,87 and 89-93 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-11,14-25,27,69-74,76-85,87 and 89-93 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/8B/08)
Paper No(s)/Mail Date _____

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date _____

5) Notice of Informal Patent Application

6) Other: _____

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicants' submission filed on 20 October 2008 has been entered.

Claims 1-11, 14-25, 27, 69-74, and 76-85, 87, 89-93 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 3-8, 10, 11, 14-16, 18, 19, 21-24, 27, 28, 69-73, 74, 77-82, 85, 89, and 90- 93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curry et al, US20030169727 in view of Crosbie, 20020035699 A1 and further in view of Lee et al, US 2002/0071396 A1. Hereinafter, referred to as Curry and Crosbie and Lee respectively.

As to independent claims 1, 11, 22, 74, 89 and dependent claims 90-93:

Regarding claim 1, with reference to figures 1-3, Curry discloses a voice over Internet (VOIP) system comprising:

A wireless gateway system in communication with a plurality of mobile units 1 (Figure 2), using a wireless link between base stations transceivers 61 and wireless terminals 1, the transceivers provide two-way wireless voice frequency communications for the wireless terminals, see paragraph [0019], (claimed at least one infrastructure component communicating with one or more wireless devices using a wireless device over-the-air (OTA) protocol different from Internet protocol (IP));

The wireless gateway system comprising a packet service gateway 69, for facilitating communication between a wireless device 1 (claimed target device) and a router within data network 31 (Internet) see (figure 3), (claimed at least one logic component facilitating communication between a target wireless device and a communication device, the target wireless device not supporting IP); the packet service gateway establishes two-way voice communication via the public packet switched data network 31, for each voice call in progress through a transceiver and a wireless telephone terminal 1. The packet service gateway performs the necessary compression and decompression of the voice signals and conversions between the protocols used for wireless voice communication and the TCP/IP protocols on the network 31, see paragraph [0033]. (Claimed the logic component undertaking method acts including: transforming-voice data in IP protocol to the wireless device OTA protocol; sending the voice data in the wireless device OTA protocol to the target wireless device; transforming-voice data in the wireless device OTA protocol from the target wireless

device to IP protocol; and sending the voice data in IP protocol toward the communication device).

Curry discloses packet service gateway 69 converts the message to TCP/IP packet format, with the appropriate IP address for the HLR (Home Locator Register) database 33 and multiplexes the packet(s) into the portion of the T1 stream going out to the network 31. See paragraph [0100]. Curry also discloses the database 33 supplies the IP address of the packet service gateway 69, see paragraph [0134]. Curry further discloses when the user roams, the handset periodically registers with one of the access managers, and each access manager performing a registration provides a location update notice to the HLR database as part of the verification operation. In response to each query for translation relating to the called subscriber's handset, the conditional analysis processing by the domain name server system 51 and the retrieval of location registration information through the HLR database 33 and the access manager 67 result in routing of each call through the public switched packet data network 31 to the user's current location. See paragraph [0138].

Regarding claim 11, with reference to figures 1-3, Curry discloses wireless gateway system in communication with a plurality of mobile devices 1 (Figure 2), using a wireless link between base stations transceivers 61 and wireless terminals 1, the transceivers providing two-way wireless voice frequency communications for the wireless terminals, see paragraph [0019], (claimed communicating voice data in IP to a wireless device not supporting Internet protocol (IP)), comprising:

Establishing by a packet service gateway two-way voice communication via the public packet switched data network 31, and for each voice call in progress through a transceiver and the wireless telephone terminal 1. The packet service gateway performs the necessary conversions of the voice signals and the protocols used for wireless voice communication and the TCP/IP protocols on the network 31 see paragraph [0033]. (Claimed transforming the voice data in IP to an over-the-air (OTA) protocol different from IP; and transmitting the voice data in the OTA protocol to the wireless device).

Curry discloses packet service gateway 69 converts the message to TCP/IP packet format, with the appropriate IP address for the HLR (Home Locator Register) database 33 and multiplexes the packet(s) into the portion of the T1 stream going out to the network 31. See paragraph [0100]. Curry also discloses the database 33 supplies the IP address of the packet service gateway 69, see paragraph [0134]. Curry further discloses when the user roams, the handset periodically registers with one of the access managers, and each access manager performing a registration provides a location update notice to the HLR database as part of the verification operation. In response to each query for translation relating to the called subscriber's handset, the conditional analysis processing by the domain name server system 51 and the retrieval of location registration information through the HLR database 33 and the access manager 67 result in routing of each call through the public switched packet data network 31 to the user's current location. See paragraph [0138]. Curry further discloses the wireless gateway system 5 comprising a packet service gateway performing the necessary voice signals conversions between the protocols used for wireless voice

communication and the TCP/IP protocols on the network 31, see paragraph [0033]. (Claimed transforming, at the first infrastructure component, voice data in the OTA protocol received from the wireless device to IP protocol; and sending the voice data in IP protocol toward the a communication device).

Regarding claim 22, claim 22 is computer program product claim having substantially the same scope of claim 1. Curry further discloses with reference to figure 3B, a software running on a computer of the packet service gateway 69, the software including a control program 103, the control program 103 includes high level control software, session managers 105 as well as one or more databases 107 storing relevant control information. The control program 103 initiates one session manager routine 105 for each call in progress. The session manager receives and processes various signals from the call processing function routines 91 and provides the necessary instructions (claimed codes for causing) to those routines to execute each individual call processing function. The control program 103 also controls or administers TCP/IP addressing functions and initiates certain necessary signaling communications through the network 31.

Curry discloses packet service gateway 69 converts the message to TCP/IP packet format, with the appropriate IP address for the HLR (Home Locator Register) database 33 and multiplexes the packet(s) into the portion of the T1 stream going out to the network 31. See paragraph [0100]. Curry also discloses the database 33 supplies the IP address of the packet service gateway 69, see paragraph [0134]. Curry further

discloses when the user roams, the handset periodically registers with one of the access managers, and each access manager performing a registration provides a location update notice to the HLR database as part of the verification operation. In response to each query for translation relating to the called subscriber's handset, the conditional analysis processing by the domain name server system 51 and the retrieval of location registration information through the HLR database 33 and the access manager 67 result in routing of each call through the public switched packet data network 31 to the user's current location. See paragraph [0138].

Regarding claim 74, with reference to figures 1-3, Curry discloses a voice over Internet (VOIP) system comprising:

A wireless gateway system in communication with a plurality of mobile units 1 (Figure 2), using a wireless link between base stations transceivers 61 and wireless terminals 1, the transceivers provide two-way wireless voice frequency communications for the wireless terminals, see paragraph [0019], (claimed at least one infrastructure component communicating with one or more wireless devices using a wireless device over-the-air (OTA) protocol different from Internet protocol (IP));

The wireless gateway system comprising a packet service gateway 69, for facilitating communication between a wireless device 1 (claimed target device) and a router within data network 31 (Internet) see (figure 3), (claimed at least one logic component facilitating communication between a target wireless device and a communication device, the target wireless device not supporting IP); the packet service gateway establishes two-way voice communication via the public packet switched data network

31, for each voice call in progress through a transceiver and a wireless telephone terminal 1. The packet service gateway performs the necessary compression and decompression of the voice signals and conversions between the protocols used for wireless voice communication and the TCP/IP protocols on the network 31, see paragraph [0033]. (Claimed the logic component undertaking method acts including: transforming-voice data in IP protocol to the wireless device OTA protocol; sending the voice data in the wireless device OTA protocol to the target wireless device; transforming-voice data in the wireless device OTA protocol from the target wireless device to IP protocol; and sending the voice data in IP protocol toward the communication device).

Curry discloses packet service gateway 69 converts the message to TCP/IP packet format, with the appropriate IP address for the HLR (Home Locator Register) database 33 and multiplexes the packet(s) into the portion of the T1 stream going out to the network 31. See paragraph [0100]. Curry also discloses the database 33 supplies the IP address of the packet service gateway 69, see paragraph [0134]. Curry further discloses when the user roams, the handset periodically registers with one of the access managers, and each access manager performing a registration provides a location update notice to the HLR database as part of the verification operation. In response to each query for translation relating to the called subscriber's handset, the conditional analysis processing by the domain name server system 51 and the retrieval of location registration information through the HLR database 33 and the access

manager 67 result in routing of each call through the public switched packet data network 31 to the user's current location. See paragraph [0138].

Regarding claim 89, claim 89 is a means claim corresponding to the method claim 11 with similar scope, thus it is subject to the same rejection.

The difference between claims 1, 11, 22, 74, 89, 90- 93 and Curry is that Curry does not explicitly specify assigning IP addresses to wireless devices based on the location of the of the wireless devices and assigning second IP addresses to wireless devices during roaming (Examiner interpreted the limitations of assigning a second IP address to mean assigning IP address during roaming to another infrastructure).

Also Curry does not specify the gateway does not perform vocoding/devocoding .

However, Crosbie discloses in the same field of endeavor of wireless communication, reassigning of IP address to mobile devices prior to and during roaming, see abstract, paragraphs [0050]-[0056].

Lee discloses eliminating vocoding and devocoding from VoIP Gateways. See paragraphs [0030], [0038]-[0047].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide the dynamic IP address assignment to the mobile devices of Curry as taught by Crosbie so to provide seamless roaming for the mobile devices of Curry. The advantage would the provisioning of continuous voice calls between the wireless devices of Curry while away from the home networks.

Further, a person of ordinary skill in the art would recognize the inter- communication delays introduced in the gateway of Curry (Lee [0038]). A skilled artisan

would eliminate the vocoding/devocoding as taught by Lee from the gateway of curry/Crosbie so to eliminate the inter-communication delays (Lee [0038]), resulting in a better delivery of delay sensitive VOIP.

As to dependent claims 3, 5-8, 10, 14-15, 18, 19, 21, 22, 23,24, 27, 28, 69-73, 77, 79-82, and 87:

Regarding claims 3, 15, 27 and 77 with reference to figure 2, Curry discloses the wireless gateway system comprises base stations 61. (Claimed the infrastructure components are base stations (BTSs) or base station controllers).

Regarding claims 5-8, 18-19, 80-82 Curry discloses that at the wireless gateway system 5 comprising a packet service gateway performing the necessary voice signals conversions between the protocols used for wireless voice communication and the TCP/IP protocols on the network 31, see paragraph [0033]. (claimed the wireless device OTA protocol is an over-the-air (OTA) voice protocol, as in claims 5, 19 and 80; converting OTA protocol packets to IP packets, as in claims 6 and 81; converting IP packets to OTA protocol packets, as in claims 83, or converting, as in claims 7 ,8, 18 and 82).

Regarding claim 14, as discussed with regard to parent claim 11, Curry discloses the wireless Gateway System for carrying out the invention. (Claimed method is undertaken by one or more communication system infrastructure components).

Regarding claims 4, 16 and 78, Curry discloses the infrastructure component is Wireless gateway system comprising Base Transceiver Stations. However, a base Station Controller is implicit in the infrastructure of Curry because it is required for controlling the base stations as known in the art. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to implement the functions of the packet service gateway of Curry within the implicit BSC of Curry in lieu of a separate component of the wireless gateway so that a technician can provide on-site diagnosis in case of failures. (It is noted that the specification does not give any advantage of having the infrastructure implemented whether in Base Station or BSC)

Regarding claims 10, 21, 23, 24 and 85, as indicated above, Curry uses wireless frequency protocol conversion to and from IP protocol. It is implicit that OTA protocol voice packets of Curry has a size less than the size of an IP packet, because the packet size of the voice over IP is relatively large compared to the packet size of voice packet carried over wireless links (longer wireless packets are prone to incur higher bit error rates in wireless system than non wireless systems). (See also as an example prior art admission, specification paragraph [0006]).

Regarding claim 73, Curry discloses having VOIP. (Claimed voice data represents digitized voice, or digital data).

Regarding claims 69-72 and 79, as indicated above, Curry discloses an over-the-air wireless interface protocol but doesn't specify the wireless protocol can be selected from a group of protocols consisting of: CDMA, WCDMA, TDMA, TD-SCDMA, UMTS.

However, these protocols are well-established standards protocols used in of wireless communications systems. It would have been obvious to a person of skill in the art at the time the invention was made to modify the method/system of Curry to be used not only for frequency conversion protocol but also to the existing wireless devices implementing any known standard such as WCDMA, TDMA, TD-SCDMA, UMTS so that these wireless devices can communicates over the Internet. It is also more profitable to Curry's system to be capable to provide a variety of services over the Internet for a larger number of wireless subscribers using different wireless protocols.

Regarding claims 69, 71 and 79, Curry discloses all the limitations of respective base claim 1 and 11 and 74 as indicates above, except it doesn't disclose a base station being a gateway for satellite communication system.

However, Examiner takes official notice again as indicated in previous office actions, that gateway for satellite communications is well known in the art. Since official action is taken, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made to have a base system component of Curry being a gateway for satellite communication so that non-IP mobile devices can communicate with remote communication devices using satellite communication system. The

advantage would be the ability to provide worldwide communications between the wireless devices of Curry and any other communication device that may be reached over the satellite communication system.

Regarding claim 87, As indicated in independent claim 11 above, Curry discloses a plurality of mobile units 1 in communication with each other through t6he gateway. (Claimed wireless device is a first wireless device and the first wireless device communicates with a second wireless device in a call).

2. Claims 2, 9, 17, 20, 25, 76 and 84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curry In view of Crosbie and further in view of Lee as applied to claims 1, 11, and 74 above and further in view of Jiang US Patent 7,058,076 B1.

Regarding claims 2, 9, 17, 20, 25, 76, and 84 as discussed above with regard to respective parent claims 1, 11, 22 and 74, Curry discloses an OTA (Over-The-Air) interface between the wireless devices 1(not supporting IP) and base stations transceivers 61 (figure 2), the transceivers providing two-way wireless voice frequency communications for the wireless terminals. See paragraph [0019]. However, Curry doesn't specify the wireless interface being in accordance with CDMA protocol, or CDMA voice protocol, or the wireless device OTA protocol is a spread spectrum protocol.

However Jiang discloses in the same field of wireless voice protocols conversion from and to IP protocols in a wireless infrastructure (WINN), a wireless CDMA interface with an IP network for converting between CDMA wireless protocol IP protocol (herein

after referred to Jiang gateway feature). (spreading and disspreading is a feature of CDMA system, claimed the wireless device OTA protocol is a spread spectrum protocol).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to enhance the wireless gateway system of Curry in view of Crosbie in view of Lee with Jiang's gateway feature so that the method/system of Curry in view of Crosbie and in view of Lee can be used for CDMA/spread spectrum wireless terminals. A person of skill in the art would do so by recognizing the benefit of having the desirability, given the high number of CDMA users worldwide, to take advantage of using VOIP to make voice calls, resulting in less charges of carrying long distance calls.

Response to Arguments

3. Applicant's arguments with respect to the pending claims 11-11, 14-25, 27, 69-74, and 76-85, 87, 89-93 have been considered but are moot in view of the new ground(s) of rejection.

The rejections under 35 USC § 112 have been withdrawn in view of the Amendment to claims 22-25, 27, and 92.

Curry reference:

Applicants argue that a *prima facie* case of obviousness was not established. In particular, Applicants alleged on page 12 of the remarks that"

"In the system of Curry, referring to Figs. 1 and 2, a wireless gateway system 5 connected to the Internet 31 provides a wireless handset 1 with an interface to the

*Internet 31. In particular, the gateway compresses and decompresses received voice frequency communication signals.⁴ Moreover, Curry stresses that such compression and decompression of received voice frequency communication signals is a "necessary" function of the wireless gateway system 5.⁵ As such, the compression/decompression or vocoding/devocoding functionality of Curry is part of the principle of operation of Curry. As is known, "[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious."⁶ In this instance, the suggested modification of Curry to include the teachings of Rabipour, which would allegedly result in avoiding the previously "necessary" compression/decompression or vocoding/devocoding functionality, thereby involves a substantial redesign of the elements of Curry. Further, this suggested modification/redesign changes the basic principle of operation of Curry, eliminating the "necessary" functionality stated by Curry. Based on the above-noted case law, such a modification is not proper. Therefore, since the proposed modification would change the principle of operation of Curry, the teachings of the references are not sufficient to render the claims *prima facie* obvious". Emphasis added.*

Examiner respectfully disagrees, the passage of Curry relied upon (paragraph [0033] is repeated here for convenience:

[0033] As discussed in more detail with regard to FIG. 2, the wireless gateway system 5 includes a packet service gateway as well as transceivers or base stations coupled to the antennas 3 to provide a

number of wireless access points. The wireless access point equipment provides two-way wireless telephone communication with the handsets 1. The associated packet service gateway establishes two-way voice communication via the public packet switched data network 31, for each voice call in progress through a transceiver and a wireless telephone terminal 1. The packet service gateway performs the necessary compression and decompression of the voice signals and conversions between the protocols used for wireless voice communication and the TCP/IP protocols on the network 31. The wireless gateway system 5 also includes an access manager for controlling registration and billing related functions.

Contrary to Applicants, the passage above indicate that the packet service gateway performs the necessary compression and decompression of the voice signals and conversions between the protocols used for wireless voice communication and the TCP/IP protocols on the network. It appears that in addition to "necessary" compression and decompression, there is also "necessary" conversions between the protocols used for wireless voice communication and the TCP/IP protocols on the network. It appears that Applicants singled out the feature of the compression and decompression to argue the case of *prima facie* obviousness contending that the compression/decompression are the same as vocoding/devocoding, which is not the case (Curry is silent about coding/vocoding) and erroneously concluding that "*compression/decompression or vocoding/devocoding functionality of Curry is part of the principle of operation of Curry.* As is known "[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of

the references are not sufficient to render the claims prima facie obvious". Emphasis added.

In the rejections above of independent claims that were amended to include the "non-vocoding/devocoding" at the infrastructure, Examiner provided the Lee reference. As can be clearly seen that Lee teaches that vocoding/devocoding at a VOIP gateway (at base stations or MSC Lee [0038]) causes substantial delays and thus provides no vocoding/devocoding at the gateway infrastructure. The teaching of Lee of eliminating the vocoding/devocoding from the gateway and moving it to the handsets shows that Applicants assumptions of modifying the "principle of operation" of Curry do not stand of being proper.

Examiner believes that the rejections above are proper.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See Form PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AHMED ELALLAM whose telephone number is (571)272-3097. The examiner can normally be reached on 7-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/AHMED ELALLAM/
Examiner, Art Unit 2416
12/16/08

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